# AMERICAN UNIVERSITY OBSERVATORY

//

## MONTHLY BULLETIN

## METEOROLOGICAL SECTION

FRANS BRUIN: DIRECTOR

HALIM HOURANI, OBSERVER

**BEIRUT, LEBANON**

Latitude: 33° 54' 22" N.

Longitude: $2^h\ 21^m\ 52^s.7$ E.

**December 1959**

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WEATHER BUREAU

# DECEMBER 1959

## METEOROLOGICAL REGISTER

| Date | Barometer reduced to O°C Sea level and 45° Latitude 700 mm. +... | | | | Thermometer Degrees Centigrade | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 8:30 | 14:30 | 20·30 | Mean | Max. | Min. | 8:30 | 14:30 | 20.30 | Mean |
| 1 | 67.8 | 67.2 | 67.8 | 67.6 | 17.5 | 12.0 | 14.4 | 15.8 | 14.5 | 14.9 |
| 2 | 68.2 | 66.8 | 67.2 | 67.4 | 17.5 | 13.5 | 14.0 | 16.2 | 14.5 | 14.9 |
| 3 | 66.2 | 64.2 | 62.3 | 64.2 | 19.9 | 14.7 | 15.0 | 17.9 | 15.0 | 16.0 |
| 4 | 60.6 | 58.7 | 58.0 | 59.1 | 20.7 | 14.9 | 17.4 | 19.1 | 19.5 | 18.7 |
| 5 | 60.8 | 60.4 | 62.8 | 61.3 | 20.7 | 15.3 | 18.1 | 19.0 | 16.0 | 17.7 |
| 6 | 64.5 | 64.2 | 64.6 | 64.4 | 20.8 | 15.8 | 19.0 | 19.0 | 17.0 | 18.3 |
| 7 | 63.0 | 61.4 | 61.4 | 61.9 | 20.8 | 13.6 | 17.5 | 19.5 | 18.0 | 18.3 |
| 8 | 62.8 | 63.8 | 61.6 | 62.7 | 19.5 | 14.0 | 17.4 | 18.4 | 16.0 | 17.3 |
| 9 | 67.6 | 66.2 | 66.6 | 66.8 | 18.8 | 15.0 | 15.9 | 18.0 | 17.5 | 17.1 |
| 10 | 66.2 | 64.8 | 65.6 | 65.5 | 18.4 | 14.1 | 16.0 | 17.4 | 17.0 | 16.8 |
| 11 | 66.2 | 65.2 | 65.9 | 65.8 | 18 0 | 13.2 | 15.2 | 17.3 | 17.0 | 16.5 |
| 12 | 67.3 | 66.8 | 66.6 | 66.9 | 19.0 | 13.4 | 14.9 | 16.0 | 15 5 | 15.5 |
| 13 | 66.8 | 66.0 | 66.0 | 66.3 | 20.1 | 14.4 | 16.5 | 18.0 | 17.0 | 17.2 |
| 14 | 66.4 | 65.4 | 65.8 | 65.9 | 20.7 | 15.4 | 16.0 | 18.4 | 16.5 | 17.0 |
| 15 | 64.8 | 63.7 | 63.9 | 64.1 | 20.2 | 15.4 | 16.7 | 18.7 | 17.0 | 17.5 |
| 16 | 62.5 | 61.3 | 61.6 | 61.8 | 20.3 | 17.0 | 16.7 | 18.8 | 19.0 | 18.2 |
| 17 | 63.3 | 63.4 | 63.9 | 63.5 | 21.4 | 14.9 | 18.5 | 19.4 | 16.5 | 18.1 |
| 18 | 62.4 | 60.2 | 58.9 | 60.5 | 19.0 | 14.9 | 16.0 | 18.2 | 17.0 | 17.1 |
| 19 | 57.3 | 56.1 | 57.1 | 56.8 | 20.8 | 13.9 | 14.9 | 18.0 | 16.0 | 16.3 |
| 20 | 61.6 | 61.9 | 62.7 | 62.1 | 18.9 | 14.5 | 15.3 | 17.5 | 15.5 | 16.1 |
| 21 | 62.1 | 60.6 | 61.3 | 61.3 | 18.3 | 11.2 | 16.4 | 16.6 | 15.5 | 16.2 |
| 22 | 62.8 | 63.5 | 65.8 | 64.0 | 17.3 | 12.1 | 12.2 | 14.8 | 13.5 | 13.5 |
| 23 | 66.8 | 65.5 | 65.8 | 66.0 | 18.6 | 13.1 | 15.1 | 17.6 | 15.0 | 15.9 |
| 24 | 65.6 | 64.2 | 65.2 | 65.0 | 18.6 | 13.4 | 15.5 | 17.0 | 15.0 | 15.8 |
| 25 | 67.5 | 66.3 | 66.1 | 66.6 | 17.4 | 12.5 | 15.2 | 16.5 | 15.0 | 15.7 |
| 26 | 65.9 | 63.9 | 63 9 | 64.6 | 17.8 | 13.9 | 14.5 | 17.0 | 15.0 | 15.5 |
| 27 | 63.8 | 61.1 | 61.9 | 62.3 | 17.8 | 14.0 | 16.0 | 17.5 | 16.0 | 16.5 |
| 28 | 63.1 | 62.6 | 64.0 | 63.2 | 19.0 | 13.8 | 15.2 | 17.1 | 15.0 | 15.8 |
| 29 | 65.9 | 64.3 | 64.5 | 65.0 | 19.5 | 13.4 | 14.8 | 17.4 | 14.5 | 15.6 |
| 30 | 63.3 | 61.6 | 60.9 | 61.9 | 17.9 | 14.7 | 14.6 | 17.2 | 15.5 | 15.8 |
| 31 | 59.9 | 58.8 | 58.7 | 59.1 | 18 0 | 10.4 | 14.6 | 16.8 | 14 3 | 15.2 |
| | 64.29 | 63.23 | 63.50 | 63.66 | 19.13 | 13.95 | 15.79 | 17.62 | 16.01 | 16.48 |

Barometer, range for month 768.2 mm. — 756.1 mm.
„ 71-yr. average for month 763.23mm.
Thermometer, range for month 21.4°C — 10.4°C
„ 82-yr. average for month 15.6°C
Rain total for month 86.74 mm.
„ 82-yr average for month 188.0 mm.
„ Total, Sept. 1st. to end of month 280.94 mm.
, 82-yr average. Sept. 1st. to end of month 375 27 mm.

# DECEMBER 1959

## METEOROLOGICAL REGISTER

| Date | Pressure of Water Vapor Millibars | | | | Relative Humidity per cent. | | | | sun. | Wind per day | Rain |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8:30 | 14:30 | 20:30 | Mean | 8:30 | 14:30 | 20:30 | Mean | Hrs. | Kms. | m.m. |
| 1 | 9.7 | 10.2 | 8.8 | 9.6 | 59 | 57 | 53 | 56 | 8.6 | 90 | |
| 2 | 9.8 | 10.2 | 9.5 | 9.8 | 61 | 55 | 57 | 58 | 8.4 | 76 | |
| 3 | 10.7 | 11.2 | 11.6 | 11.2 | 63 | 55 | 69 | 62 | 7.3 | 53 | |
| 4 | 13.6 | 15.1 | 12.5 | 13.7 | 68 | 68 | 54 | 63 | 3.7 | 42 | |
| 5 | 12.5 | 14.6 | 10.0 | 12.4 | 60 | 67 | 55 | 61 | 7.5 | 177 | 1.80 |
| 6 | 13.8 | 15.8 | 14.3 | 14.6 | 63 | 72 | 74 | 70 | 3.3 | 63 | |
| 7 | 12.6 | 17.1 | 12.0 | 13.9 | 62 | 76 | 58 | 65 | 4.5 | 32 | |
| 8 | 12.9 | 14.3 | 12.6 | 13.3 | 64 | 67 | 69 | 67 | 4.9 | 134 | 16.58 |
| 9 | 15 3 | 12.7 | 13.7 | 13.9 | 85 | 62 | 68 | 72 | 7.9 | 60 | 4.46 |
| 10 | 12.2 | 13.6 | 13.6 | 13.1 | 67 | 68 | 70 | 68 | 7.9 | 71 | |
| 11 | 10.8 | 12.8 | 13.6 | 12.4 | 62 | 66 | 70 | 66 | 6.6 | 116 | |
| 12 | 11.5 | 11.1 | 11.0 | 11.2 | 69 | 61 | 62 | 64 | 8.2 | 50 | |
| 13 | 10.5 | 11.0 | 12.6 | 11.4 | 55 | 53 | 66 | 58 | 8.1 | 35 | |
| 14 | 12.2 | 14.7 | 12.3 | 13.1 | 67 | 69 | 65 | 67 | 8.1 | 23 | |
| 15 | 11.8 | 16.1 | 15.7 | 14.5 | 62 | 76 | 82 | 73 | 3.6 | 29 | |
| 16 | 9.3 | 15.2 | 7.5 | 10.7 | 49 | 70 | 34 | 51 | 7.9 | 31 | |
| 17 | 13.2 | 15.9 | 14.8 | 14.6 | 62 | 70 | 79 | 70 | 7.5 | 61 | |
| 18 | 14.7 | 15.5 | 12.8 | 14.3 | 81 | 75 | 66 | 74 | 7.6 | 21 | |
| 19 | 15.4 | 13.8 | 11.3 | 13.5 | 91 | 67 | 62 | 73 | 2.2 | 230 | 6.46 |
| 20 | 16.4 | 16.7 | 13.0 | 15.4 | 94 | 84 | 73 | 84 | 0.0 | 235 | 27.22 |
| 21 | 11 9 | 13.2 | 10.3 | 11.8 | 63 | 70 | 58 | 64 | 2·5 | 193 | 0.81 |
| 22 | 12.7 | 13.5 | 13.2 | 13.1 | 91 | 81 | 86 | 86 | 3.0 | 158 | 22.75 |
| 23 | 11.7 | 12.7 | 11.6 | 12.0 | 69 | 64 | 69 | 67 | 2.3 | 82 | 0.30 |
| 24 | 10.3 | 11.7 | 12.6 | 11.5 | 58 | 60 | 74 | 64 | 3.3 | 172 | 2.80 |
| 25 | 12.8 | 12.2 | 12.3 | 12.4 | 74 | 64 | 72 | 70 | 8.2 | 92 | 0.58 |
| 26 | 10.5 | 12.7 | 12.0 | 11.7 | 63 | 66 | 71 | 67 | 6.7 | 66 | |
| 27 | 12.6 | 14.8 | 12.6 | 13.3 | 69 | 74 | 69 | 71 | 0.0 | 61 | |
| 28 | 11.5 | 12.9 | 11.3 | 11.9 | 66 | 66 | 66 | 66 | 6.9 | 93 | |
| 29 | 11.1 | 12.9 | 11.9 | 12.0 | 66 | 64 | 72 | 67 | 6.4 | 14 | |
| 30 | 12.0 | 13.8 | 10.3 | 12.0 | 72 | 70 | 58 | 67 | 7.8 | 19 | |
| 31 | 12.6 | 11.9 | 12.6 | 12.4 | 76 | 62 | 78 | 72 | 0.9 | 138 | 2.98 |
| | 12.21 | 13.54 | 12.06 | 12.60 | 68.1 | 67.1 | 66.4 | 67.2 | 5.54 | 87.64 | 2.80 |

Height of Barometer above sea level : 33.7 meters.
Height of Thermometers above ground :
Dry and wet 1.25 m. ; Max. 1.30 m. ; Min. 1.50 m.
Hygrometric data from readings of wet and dry bulb thermometers exposed in a Stevenson screen, reduced according to M.O. 265.
Rim of Rain Gauge : above ground 0.66 m. ; above sea level 30.31 m.
Rainfall is read at 20:30 for the preceding 24 hours.
71 year averages are for period, 1875-1945

# DECEMBER 1959

## METEOROLOGICAL REGISTER

| Date | Clouds clear—0 Overcast—10 | | | | beaufort, scale Direction and force of wind | | | Sea | Notes |
|---|---|---|---|---|---|---|---|---|---|
| | 8:30 | 14:30 | 20:30 | Mean | 8:30 | 14:30 | 20:30 | | |
| 1 | 0 | 0 | 0 | 0.0 | 2e | 2ne | 1ne | light | |
| 2 | 0 | 1ci | 0 | 0.3 | 1se | 2ne | 1ne | ,, | |
| 3 | 1ci | 10ci-st | 0 | 6.7 | 1s | 1ne | 1ne | ,, | |
| 4 | 1ci | 10st | 6st-ci | 8.7 | 1e | 1e | 1ne | ,, | D.a.m |
| 5 | 0 | 5cu-st | 2ci | 2.3 | 2sw | 1sw | 1sw | ,, | |
| 6 | 8cu-st | 10cu-st | 2ci | 6.7 | 2ne | 1sw | 1sw | light | |
| 7 | 10ci | 7ci | 4ci | 7.0 | 2sw | 1n | 1ne | ,, | |
| 8 | 10st | 3cu-st | 7cu-st | 6.7 | 2sw | 2sw | 1sw | ,, | |
| 9 | 4cu-st | 0 | 7cu-st | 3.7 | 1se | 3ne | 2ne | ,, | |
| 10 | 0 | 6ci | 5cu-st | 3.7 | 1e | 2ne | 1ne | ,, | |
| 11 | 0 | 10ci-cu | 0 | 3.3 | 2e | 3ne | 2ne | light | |
| 12 | 0 | 2cu-ci | 3ci | 1.7 | 1se | 2sw | 1sw | ,, | D.a.m |
| 13 | 0 | 2st | 4ci | 2.0 | 1sw | 2sw | 2sw | ,, | |
| 14 | 4ci | 6ci | 0 | 3.3 | 2sw | 1nw | 2sw | ,, | |
| 15 | 10ci-cu | 10ci-st | 8ci-st | 9.3 | 1e | 1ne | 1ne | ,, | |
| 16 | 10ci-cu | 0 | 0 | 0.3 | 1e | 1ne | 2ne | light | |
| 17 | 0 | 0 | 0 | 0.0 | 1e | 1nw | 1nw | ,, | |
| 18 | 6ci | 6st-ci | 3ci | 5.0 | 1e | 2ne | 1ne | ,, | D.a.m |
| 19 | 10ni | 6cu-st | 6cu-st | 7.3 | 1e | 3e | 4ne | ,, | |
| 20 | 8cu-st | 4cu-st | 3cu-st | 5.0 | 2ne | 2ne | 1ne | ,, | |
| 21 | 3ci-st | 9st | 7cu-st | 6.3 | 2sw | 3sw | 2sw | light | |
| 22 | 10st | 10st-ni | 6cu-st | 8.7 | 2s | 3sw | 2sw | ,, | |
| 23 | 9st | 10ci-st | 0 | 6.3 | 3sw | 2sw | 2sw | ,, | |
| 24 | 0 | 10st | 8cu-st | 6.0 | 2sw | 4sw | 2sw | ,, | |
| 25 | 3cu | 0 | 0 | 1.0 | 1se | 2sw | 2sw | ,, | |
| 26 | 0 | 0 | 0 | 0.0 | 1e | 1ne | 1ne | light | |
| 27 | 10st | 10st | 10st | 10.0 | 2sw | 1sw | 1sw | ,, | |
| 28 | 9cu-st | 5ci-cu | 0 | 4.7 | 1s | 2w | 1sw | ,, | |
| 29 | 7ci-cu | 2ci-cu | 0 | 3.0 | 1s | 1w | 1sw | ,, | |
| 30 | 0 | 10ci | 0 | 3.3 | 1w | 1ne | 1ne | ,, | |
| 31 | 10st-ni | 10st-ni | 0 | 6.7 | 4sw | 1se | 1sw | ,, | |
| | mean | | | 4.48 | | | | | |

Abbreviations : G = gale ; H = haze ; M = mist ; T = thunderstorm ; D = dew
W = strong wind; Tr = trace of rain

### Number of Daily Wind Observations

| Time | N | NE | E | SE | S | SW | W | NW | Calm | Totals |
|---|---|---|---|---|---|---|---|---|---|---|
| 8:30 | 0 | 2 | 10 | 4 | 4 | 10 | 1 | 0 | 0 | 31 |
| 14:30 | 1 | 12 | 2 | 1 | 0 | 11 | 2 | 2 | 0 | 31 |
| 20:30 | 0 | 15 | 0 | 0 | 0 | 15 | 0 | 1 | 0 | 31 |
| Total | 1 | 29 | 12 | 5 | 4 | 36 | 3 | 3 | 0 | 93 |

Number of days with rain 11, fog 0, thunderstorms 0, gale. 0
71 yr. av. number of days with rain during month 13.4
Time of reading minus 2 hours equals G.C.T